Barracuda Networks Technical Documentation

Barracuda **NG Firewall**

Release and Migration Notes

Version 5.0.5

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Content

General

Warning

Read this document **before** updating your system

Caution

If you are going to update from **release version 4.2** to Barracuda NG Firewall 5.0.5, Barracuda Networks strongly recommends to study the Barracuda NG Firewall 5.0 Migration Instructions available for download at **http://barracuda.com/doc**, as, under certain circumstances, no countermanding is possible once the updating process was initiated.

For in-depth information about new features and changes in terminology that have been introduced with release version 5.0, please refer to the **Barracuda NG Firewall 5.0 Migration Instructions** downloadable from the same source.

Caution

Starting with Barracuda NG Firewall 4.2.13, OVA images for VMWare were made available. OVA images based on minor release 4.2.13 contain a bug which might lead to loss of the current network configuration when updating to Barracuda NG Firewall minor release 5.0.5.
Please make sure to configure your network settings **before updating** virtual appliances based on 4.2.13 OVA images using Barracuda NG Admin at least once. Also, a network activation is required.
This issue does not apply to fresh installations based on 5.0.5 OVA images.

Note

The Barracuda NG Firewall may reboot after installation. If not, Barracuda Networks recommends performing a manual reboot.

GPL Compliance Statement

This product is in part Linux based and contains both Barracuda Networks proprietary software components and open source components in modified and unmodified form. A certain number of the included open source components underlie the GPL or LGPL or other similar license conditions that require the respective modified or unmodified source code to be made freely available to the general public, this source code is available on http://source.barracuda.com.
Please also refer to the chapter ***Warranty ans Software License Agreement*** of the Barracuda NG Firewall 5.0.5 Administrator's Guide documentation located in the documentation section on www.barracuda.com and on each accompanying USB thumb drive.

Supported Hardware

Table 1–1 Barracuda Networks Appliances Supported By Barracuda NG Firewall 5.0.5

Barracuda Networks Appliances Supported by Barracuda NG Firewall 5.0.5
Hardware Appliances: F10, F15, F100, F200, F300, C400, C610, F400, F600, F800, F900 F10 Rev. B*, F100 Rev. B*, F101 Rev. B*, F200 Rev. B*, F201 Rev. B*, F300 Rev. B*, F301 Rev. B*
Virtual Appliances: VC400, VC610, VC820
Standard Hardware: Please consult the Barracuda Networks Technical Support for information on Barracuda NG Firewall 5.0.5 on standard hardware.

Table 1–2 Legacy Appliances Supported By Barracuda NG Firewall 5.0.5

Legacy Appliances Supported by Barracuda NG Firewall 5.0.5
Legacy Hardware Appliances*: netfence edge Rev.B, sintegra XS Rev.B, sintegra S Rev.B, sintegra SR Rev.B, netfence S, netfence SR, netfence E, netfence XL, MR, M1, M3 Rev.A, M3 Rev.B, sintegra XS, sintegra S, sintegra S Rack, netfence edge Rev.A, netfence 140, netfence 240, netfence 240 Rack, netfence 421, netfence 431, netfence 780, netfence 850, S6 Rev.A, S6 Rev.B, S16, M50, L2000, industrial appliance, netfence L

* See the ***Barracuda NG Firewall 5.0 Migration Instructions*** for important information on restrictions appearing with certain legacy appliances on updating from firmware release versions below 5.0.

* Revision B models scheduled to be available in Q1/2012.

Minimum System Requirements

Caution

If you are going to upgrade standard hardware or phion netfence hardware to Barracuda NG Firewall 5.0.5, please ensure that at least **2 GB of free storage space** is available on the root partition. If this minimum amount of space is not available, Barracuda Networks highly recommends to re-install the system with a larger root partition instead of upgrading. On appliances with hard disk, the upgrade package requires additionally **another 2 GB** of free storage space on the `/phion0` partition for storing temporary data. This additional space is not necessary on Flash based appliances.

Table 1–3 Minimum system requirements for Barracuda NG Firewall

Operation System	included (Barracuda OS)
Disk space	15 GB on a dedicated harddisk for gateway installation on harddisks 4 GB for gateway installation on a CF flash card with 1.5 GB of free space 30 GB on a dedicated harddisk for Barracuda NG Control Center installation 2 GB of free storage space on the root partition 2 GB of free storage space on the `/phion0` partition 50 MB of free storage space on the `/boot` partition.
RAM	512 MB
Processor	400 MHz, i686 compatible The CPU must support the TSC and CMOV instructions. Installing or updating systems with older CPUs will exit with an error.
Networking	1 network interface required
Partitioned space	The boot partition must have a size of at least 50 MB. Updating a system with a smaller boot partition size exits with an error. Therefore, Barracuda Networks recommends to perform a fresh installation instead of updating, as with a fresh installation the partition size will automatically be adjusted correctly.

Table 1–4 Minimum system requirements for Barracuda NG Admin / Barracuda NG Installer

Operation Systems	Windows XP, Windows Vista (32-bit, 64-bit), Windows 7 (32-bit, 64-bit) with Microsoft .NET Framework 3.5 SP1 **or** Microsoft .NET Framework 4.0 **or** later
Disk space	30 MB
RAM	1 GB
Processor	1 GHz

Known Issues

Note

Advice about known issues is available at **https://login.barracudanetworks.com/support/knownissue** or through the Barracuda Networks support.

If you are using standard hardware and / or updating from phion netfence, please pay also attention to the ***Barracuda NG Firewall 5.0 Migration Instructions*** available for download at **https://login.barracudanetworks.com**, as in this case numerous known issues and hardware restrictions will apply.

Updates with Firmware 5.0 Minor Release 5

Update Matrix

Table 1–5 Update matrix – supported and not supported update cases

Current Version	Target Version					
	5.0	**5.0.1**	**5.0.2**	**5.0.3**	**5.0.4**	**5.0.5**
4.2.10 and earlier	-	-	-	-	-	-
4.2.11	✓	✓	✓	✓	✓	✓
4.2.13	✓	✓	✓	✓	✓	✓
4.2.14	✓	✓	✓	✓	✓	✓
4.2.15	✓	✓	✓	✓	✓	✓
4.2.16	✓	✓	✓	✓	✓	✓
4.2.17	✓	✓	✓	✓	-	✓
4.2.18	✓	✓	✓	✓	✓	✓
5.0	-	✓	✓	✓	✓	✓
5.0.1	-	-	✓	✓	✓	✓
5.0.2	-	-	-	✓	✓	✓
5.0.3	-	-	-	-	✓	✓
5.0.4	-	-	-	-	-	✓

Note

If you are going to update from a firmware release version below 5.0, then please see the ***Barracuda NG Firewall 5.0 Migration Instructions*** (published together with major release 5.0) available as a separate document at **https://login.barracudanetworks.com** before executing the update.

Software Modules and Components Affected by Minor Release 5.0.5

Table 1–6 Affected Software Modules and Components

		Affected by Minor Release				
		5.0.1	5.0.2	5.0.3	5.0.4	5.0.5
Software Modules	Firewall	✓	✓	✓	✓	✓
	VPN Service	✓	✓	✓	✓	✓
	Access Control Service	✓	✓	-	✓	✓
	HTTP Proxy	✓	✓	✓	✓	✓
	Secure Web Proxy	✓	-	-	✓	✓
	URL Filter	✓	✓	-	✓	-
	Mail Gateway	✓	-	✓	-	-
	Spam Filter	-	-	-	-	-
	Virus Scanner	✓	-	-	✓	✓
	DHCP Service	-	✓	-	✓	-
	DHCP Relay	-	-	-	-	-
	DNS	-	-	-	-	-
	FW Audit Log Service	✓	-	-	-	-
	FTP Gateway	✓	✓	-	✓	-
	OSPF/RIP Service	-	-	-	-	-
	SNMP Service	✓	-	✓	-	✓
	SSH Proxy	-	✓	-	-	-
	Authentication	-	✓	✓	✓	-
	Statistics	-	✓	-	-	-
Other	Barracuda OS	✓	✓	✓	✓	✓
	NG Control Center	✓	✓	✓	✓	-
	Network	✓	✓	✓	✓	✓
	NG Admin	✓	✓	✓	✓	-
	NG Installer	✓	✓	✓	✓	✓
	NG Network Access Client	✓	✓	-	-	-
	NG VPN Client 3.0 for MacOS	-	✓	-	-	-

Bugfixes Included with Barracuda NG Firewall 5.0.5

Barracuda NG Installer

Table 1–7 Barracuda NG Installer

Description
In rare cases, units were erroneously detected as XEN units. This issue was fixed.

Barracuda NG Firewall

Table 1–8 Barracuda NG Firewall

Module	Description
Access Control Service	An issue with the Dutch keyboard layout causing the VPN applet to erroneously activate the German keyboard layout was fixed.
Barracuda OS	Deactivated box services were erroneously displayed with red status indicators in ***Control > Processes***. This issue was fixed.
Barracuda OS	On legacy netfence edge units, the status LED erroneously kept flashing after an installation process was already finished. This issue was fixed.
Barracuda OS	Firewall rule names exceeding a length of 64 characters were breaking their respective log files, which was on Flash-based units occasionally resulting in the log service consuming all available system resources, eventually ending up in a system crash. This issue was fixed.
Barracuda OS	BIND was updated in order to fix a vulnerability. See also https://www.isc.org/software/bind/advisories/cve-2011-4313.
Firewall	On very rare occasions, a unit could freeze due to the usage of local redirect rules. This issue was fixed.
Firewall	In rare cases, adding or deleting tickets in the ticketing system's landing page failed in saving changes to the database, throwing users back to the login page instead. Furthermore, trying to print a ticket using Internet Explorer 9 brought up the following error message: `Your browser is not supported. Please use a supported browser!` Such an attempt to print a ticket in Firefox would print the ticket as intended but would also subsequently redirect the user to an empty page. These issues were fixed.
Firewall	Setting ***SynFloodProtection*** to ***Inbound*** and having a ***Redirect*** firewall rule cycling through two destination servers could cause a problem with destination server reachability in case one of the destination servers went down and came back to life later. It was not recognized as being reachable then. This issue waa fixed.
Firewall	The landing page did not allow usage of the 'ß' character in user names. This issue was fixed.
Firewall	An issue regarding invalid TCP header checksum errors in local connections, mostly VPN TCP connections, with ***TCP Checksum Validation*** switched off in the general firewall configuration, was fixed.
Firewall	On Internet Explorer 9, the landing page did at a certain point not redirect users after the welcome screen as intended. Instead, it reloaded itself but with a missing background image. This issue was fixed.
Firewall	The NG Firewall Ticketing System (ticketing management feature at the landing page) erroneously displayed a validity date that was one month back. This issue was fixed.
HTTP Proxy	Setting the ***Safe Search*** option to ***Strict*** had no effect. This issue was fixed.

Table 1–8 Barracuda NG Firewall

Module	Description
Network	On models with WiFi, it was erroneously not possible to choose the ***ath2*** WiFi interface within the routing configuration. This issue was fixed.
Network	In rare cases, OSPF introduced routes were not introduced as intended, because, under certain circumstances, summary routes received from OSPF neighbors were not written into the routing table. This issue was fixed.
Secure Web Proxy	The selection chosen in the ***Select Target Address*** list was erroneously not shown, This issue was fixed.
SNMP Service	The SNMP Service was erroneously not able to fetch certain operational values from an unit's internal sensors. This issue was fixed.
SNMP Service	The SNMP Service's configuration interface erroneously still displayed old OIDs in addition to the new ones after the configuration was changed and activated. This issue was fixed.
Virus Scanner	The Virus Scanner was in rare cases rejecting certain PDF files after erroneously classifying them as malware. This issue was fixed.
VPN Service	Activating packet compression could lead to the transport of some malformed packets. Although this was not a security risk, it could cause unwanted effects on the receiving side. This issue was fixed.
VPN Service	The user name was not correctly transmitted to the VPN server when using RADIUS as authentication method if the user name string was containing '\n' as the starting sequence for the user name part. This issue was fixed.

Determine Your Update Scenario

Caution 

If you are going to update **firmware version 4.2** to Barracuda NG Firewall 5.0.5, Barracuda Networks strongly recommends to study the instructions given in this chapter, as, under certain circumstances, no countermanding is possible once the updating process was initiated.

Note 

Updating to Barracuda NG Firewall minor release 5.0.5 is only possible from release versions 4.2.x, 5.0, 5.0.1, 5.0.2, 5.0.3 or 5.0.4. Direct updating from release versions 4.0.x or 3.x is not possible. Update to 4.2 first.

To update from firmware 4.2.x, use the `update.[xxx].tgz` file.
To update from firmware 5.0.X, use the `patch.[xxx].tgz` file.
For a fresh installation, use the `*.iso` file.

Note 

In case you are updating an HA synchronized unit to firmware release version 5.0.5 while not updating its secondary unit as well, or vice versa, so that the units run on different firmware versions, it may be necessary to re-synchronize the units after updating. To do so, click ***Firewall > Live > Show Proc***, select the process named ***Sync Handler*** and choose ***Kill Selected***. Session synchronization will automatically re-appear subsequently.

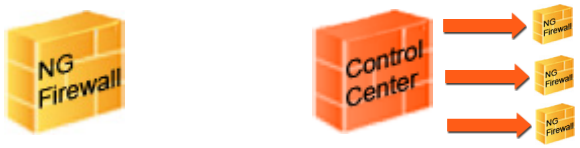
Note 

For the reason of updating speed, updating via the ***Firmware Update...*** button in Barracuda NG Admin is not recommended. This is especially valid for slow hardware or the flash based appliances F10, F100 or F101, although it is possible. Barracuda Networks strongly recommends to perform the updating process using SSH as described above.

Before beginning the updating process, you should clarify which types of hardware and administrative configuration you have.

Barracuda NG Firewall 5.0.5 and its predecessors allow different administrative configurations. Please follow those update instructions that apply to your configuration

Table 2–8 Different Administrative Configurations

Administrative Configuration Type	Applicable Update Instructions
Unmanaged Unit or NG Control Center 	If you want to update either **an unmanaged unit or an NG Control Center**, then proceed to ***Updating Unmanaged Units or NG Control Centers, page 15***.
NG Control Center Managed Unit 	If you want to update **a unit that is managed by an NG Control Center**. then proceed to Updating NG Control Center Managed Units, page 18.
Unit or NG Control Center  **Combined with HA Unit**	If you want to update **a unit or an NG Control Center** that is **combined with a High Availability (HA) unit**, then proceed to Updating HA-Synced Units or HA-Synced NG Control Centers, page 16.

Updating Unmanaged Units or NG Control Centers

Updating Units or NG Control Centers Using SSH

Best Practice

For speed reasons, Barracuda Networks recommends using this method of updating for all appliances in general, especially for those based on a flash drive or slower hardware.

Step 1: Copy

Before copying the package onto the unit as described below, make sure that there is no old minor release or patch package lurking within the `/var/phion/packages/` directory. The directory must not contain any files.

Although the `/var/phion/packages/` directory must be empty, it still contains the subdirectories: `kl, os, ph, sa, tgz`. These don't affect the updating process. Furthermore, there must not be a whitespace character within path or file name of the package.

- ***Copy the update package onto your firewall system into the*** `/var/phion/packages/` ***directory of the respective unit.***

To get the file onto the unit, you may use the ***Send File*** button within the built-in SSH client of Barracuda NG Admin. Don't forget to change the directory first using `cd /var/phion/packages/`.

Step 2: Update

Start the update sequence by executing `phionUpdate` from the shell.

No more interaction is necessary. Wait until the update is finished. Depending on the hardware, it will need from 15 minutes on the fastest appliances up to 60 minutes on the flash appliances.

Warning

Do not interrupt the update procedure. During update, the unit boots several times and due to this, the connection will be terminated. Whether the update process has been successfully finished is confirmed by output on the console, log messages, and firmware version and status displayed within ***Control > Licenses.***

Updating HA-Synced Units or HA-Synced NG Control Centers

In the instructions below, the term "primary unit" refers to the unit used for regular operation, while "HA unit" refers to the secondary unit used as a failover system.

Caution

For Firewall and Configuration HA synchronizing, the primary and the HA unit must both run at least firmware release versions between 4.2.11 and 5.0.5.

Barracuda Networks strongly recommends to follow the procedure for updating HA systems exactly as described below in order to minimize any operational drop outs.

Step 1: Prepare the HA Unit

- ***Log-in to the HA unit using Barracuda NG Admin.***
- ***Block the (standby) server on the HA unit within Control > Server.***

Step 2: Update the HA Unit

- ***Update the HA unit using SSH as delineated in Updating Units or NG Control Centers Using SSH, page 15.***

No more interaction with the HA unit is necessary. Wait until the update is finished. Depending on the hardware, it will need from 15 minutes on the fastest appliances up to 60 minutes on the flash appliances.

Warning

Do not interrupt the update procedure. During update, the unit boots several times and due to this, the connection will be terminated. Indicators that the update process has been finished are the following output on the console: `Barracuda NG Firewall release 5.0.5-xxx`, or the operativeness of logging in again using SSH or Barracuda NG Admin.

Step 3: Switch Servers to the HA Unit and Prepare the Primary Unit

- ***Log-in to the primary unit using Barracuda NG Admin.***

Proceed after having assured that the HA unit is fully functional.

- ***Unblock the (standby) servers on the HA unit by clicking Stop Server within Control > Servers.***
- ***Log-in to the primary unit using Barracuda NG Admin.***
- ***Switch all servers from the primary to the HA unit and verify for correct operability. Therefore, Block all Servers on the primary unit.***

You may leave the primary unit in standby mode until correct operability of the HA unit has been verified. Click *Stop Server* on the primary unit in order to achieve this. If functional errors occur on the HA unit, you may switch servers back to the primary unit.

Step 4: Update the Primary Unit

- ***Update the primary unit using SSH as delineated above in Updating Units or NG Control Centers Using SSH, page 15.***

No more interaction with the primary unit is necessary. Wait until the update is finished. Depending on the hardware, it will need from 15 minutes on the fastest appliances up to 60 minutes on the flash appliances.

Warning

Do not interrupt the update procedure. During update, the unit boots several times and due to this, the connection will be terminated. Indicators that the update process has been finished are the following output on the console: `Barracuda NG Firewall release 5.0.5-xxx`, or the operativeness of logging in again using SSH or Barracuda NG Admin.

Step 5: Switch Servers Back to the Primary Unit

- ***Log-in to the respective primary unit using Barracuda NG Admin.***

Proceed after having assured that the primary unit is fully functional.

- ***Re-enable all servers on the primary unit by clicking Stop Server (Control > Server) on each.***
- ***Log-in to the HA unit using Barracuda NG Admin.***
- ***Block all the servers on the HA unit by clicking Block Server (Control > Server).***

Proceed after having assured that the primary unit is fully functional.

- ***Set all the servers on the HA unit back to standby by clicking Stop Server (Control > Server).***

The update process is finished.

Updating NG Control Center Managed Units

To make use of the multi-release capabilities of Barracuda NG Control Center, all units within one cluster must run under the same software major release version. Migration of the NG CC configuration is only available for all units, servers and services of a cluster simultaneously.

Step 1: Import the Update Package into the NG Control Center

- ***Log-in to the Barracuda NG Control Center using Barracuda NG Admin.***
- ***Navigate to** Control > Firmware Update **and click** Import...*
- ***Select the update package within the file browser.***

Step 2: Select Units to Update and Send them the Update

- ***Choose the desired** Range, Cluster **or** Box.*
- ***Select the previously copied update within the** Files **list.***
- ***Click** Create Task...*
- ***Choose** Immediate Execution **from the** Scheduling **drop-down menu and click** OK.*

Step 3: Execute the Copied Update

- **Navigate to** *Control > Update Tasks.*
- ***Verify if the update package was successfully copied, which is indicated by a green icon within the** Σ **column.***
- ***Right-click the desired unit and select** Perform Update **followed by** Immediate Execution **from the** Schedule **dropdown menu.***

No more interaction with the unit is necessary. Wait until the update is finished. Depending on the hardware, it will need from 15 minutes on the fastest appliances up to 60 minutes on the flash appliances.

Note

Take a look into the box log file at ***Box > Logs >*** `Box\Release\update` after the update process has been finished. In case of a not succeeded update please consult `Box\Release\update_hotfix` for a detailed log.

Note that when updating a unit, the migration is executed at unit level and not on the Barracuda NG Control Center itself.

Migrating from phion netfence to Barracuda NG Firewall 5.0.5

Release version 5.0 of Barracuda NG Firewall was a switchpoint for customers that have been using phion netfence before. With release 5.0, phion netfence was replaced by Barracuda NG Firewall.

Apart from the new features and a new interface design, the usage concepts and system architecture stay the same.

Caution

If you are migrating from phion netfence 4.2.x to Barracuda NG Firewall 5.0.5 on **standard hardware**, you need to **apply hotfix 386 before migrating from 4.2.x to 5.0.5** in order to make use of the MAC-to-eth mapping feature that will help you keeping the port labeling as it is.
Please see ***Updating Standard Hardware from 4.2.x to 5.0.5***, page 21, in this case.

Please consult the Barracuda Networks Technical Support for in-depth information on the migration process on certain standard hardware.

Default Management IP Address and Default Password

Note that, already with release version 4.2, the default management IP address for all Barracuda NG Firewall appliances, NG Control Centers and Virtual Appliances was changed to `192.168.200.200`. However, on legacy phion appliances and phion management centres, the management IP address didn't change.

The default root password, no matter which hardware is used, was at the same time changed to `ngf1r3wall`

Related Docs

See the ***Barracuda NG Firewall 5.0 Release Notes*** to learn more about the new features introduced with major release version 5.0 and the ***Barracuda NG Firewall 5.0 Migration Instructions*** to learn about all important issues appearing when updating from release version 4.2 to release version 5.0.
Both documents are available at **http://barracuda.com/doc**.

Related Docs

See the appropriate ***Appliance Installation Guide*** or the ***Quick Installation Guide*** for your appliance to learn more about the default settings. The latest documentation is always available at **http://barracuda.com/doc** .

Issues and Restrictions when Updating from phion netfence

Related Docs

For a detailed list of known issues and hardware restrictions appearing when updating from phion netfence to major release version 5.0 please see the ***Barracuda NG Firewall 5.0 Migration Instructions***, downloadable at **https://login.barracudanetworks.com**.

Updating Standard Hardware from 4.2.x to 5.0.5

General

Due to a kernel version change between 4.2.x and 5.0.5 (Linux kernel 2.4 was changed to Linux kernel 2.6), the enumeration of NICs may on some hardware sort the ethX devices in a different order, resulting in a loss of management access.

Therefore, a procedure has now been implemented to rename the interfaces after upgrading to 5.0.5 to stay identically with the 4.2.x interface names. This is done by creating an interface mapping table using the eth device's MAC addresses as identifiers.

The following procedure **must be performed on every single unit separately** due to the fact the MAC addresses are different per unit and so will be the mapping table.

If you find out later that your server is not affected by the resorting issue, then you may delete the mapping configuration subsequently. The network activation log will then contain the following message:

```
No difference found between configured and detected MAC to interface mapping
```

- ***Update is possible on standalone as well as on NG CC-managed units from firmware 4.2.0 onwards to 5.0.5.***
- ***Updating from a base release in the range from 4.2.0 to 4.2.14 requires a hotfix to be installed. 4.2.15 to 4.2.18 include the functionality, therefore no hotfix is required.***
- ***It is recommended to evaluate the process on a system with physical access or in a lab environment in case the upgrade fails.***
- ***The procedure is compatible with user defined interface mappings. If a user defined interface mapping is found, it will be applied after the MAC-to-eth mapping procedure.***
- ***If you add additional NICs after upgrading to 5.0.5, the mapping may fail. Therefore, do not use MAC mapping in this case any longer but switch to user defined interface mapping. The problem may occur if linux detects the new NICs before it detects the old ones.***

Updating Procedure

Step 1: Prepare the Standard Hardware For the Update

- ***If the unit runs on firmware 4.2.14 or below, you must install the hotfix*** `boxnet_mac2ifmapping-386-4.2.14`***.***

Step 2: Generate the Mapping Data

- ***Log-in to the unit via ssh as root and issue the following command:***
  `CreateMACMapping`
  Running this program multiple times will do no harm.
- ***Copy the output lines of the program beginning with*** `CM` ***and those beginning with*** `CI` ***to the clipboard.***

Step 3: Apply the Mapping Data

- ***On standalone units, open the Box Network Configuration within Barracuda NG Admin.***
  On NG CC-managed units, open the Box Network Configuration within Barracuda NG Admin on the respective Barracuda NG Control Center.
- ***Paste the content of the clipboard to Network > Interfaces > MAC Mapping (only visible in Advanced configuration mode).***
- ***Set Use Assignment to yes.***
- ***Click Send Changes followed by Activate.***

Step 4: Proceed to the Update

- ***Upgrade the unit following the standard 5.0.5 upgrade procedure as described in Determine Your Update Scenario, page 13.***

When the update process is finished, please verify if all interfaces are correctly mapped.

Note

In case the linux kernel 2.4 assigned the interfaces in the same order as the linux kernel 2.6 did, the following message will be generated into the 5.0.x box network activation log:

```
No difference found between configured and detected MAC to interface mapping
```

In this case you may disable MAC mapping. This will make the configuration hardware-independent, providing you with more flexibility in case hardware will be changed somewhen in the future.

Note

Further advice about updating standard hardware is available through the Barracuda Networks support.

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